Curriculum Vitae

Dr. Muhammad Rahim

Personal Bio Data

Date of Birth: March 10, 1981.
Nationality: Pakistani
Gender: Male
Marital Status: Married
E-mail addresses: muhammad.rahim@iiu.edu.pk

Postal Address: Department of Physics, FBAS, International Islamic University, Islamabad

Academic Career

- **Ph.D**
  Physics (Condensed Matter Physics)
  (Department of Physics, Quaid-I-Azam University, Islamabad)

- **M.Phil** (2009)
  Physics (Condensed Matter Physics)
  (Department of Physics, Quaid-I-Azam University, Islamabad)

- **M.Sc (**2005)
  Physics
  (University of Malakand)

- **F.Sc** (1999)
  Govt. degree college Thana, Malakand Agency.
  (Board of Intermediate and Secondary Education, Swat)

- **S.Sc (**1997)
  Govt. high school Asbanr (Dir Lower).
  (Board of Intermediate and Secondary Education, Swat)

Title of Ph.D Dissertation

"Synthesis of Cd substituted $(Cu_{0.5}Tl_{0.5})Ba_2Ca_{n-1}(Cu_{n-y}Cd_y)O_{2n+4-\delta}$ (n=3, 4) samples and study of their superconducting properties"

Teaching Experience

S. #	Name of Institute / Organization	Period		Designation	Pay scale	Job Description	Nature of Job
		From	To				
1	International Islamic University Islamabad	Aug. 17, 2018	continue	Assistant Professor	19	Teaching and reaearch	TTS
2	Hazara University Mansehra	Sep. 2, 2016	Aug. 16, 2018	Assistant Professor	19	Teaching and reaearch	contract
3	Hazara University Mansehra	June 1, 2015	May 31, 2016	Assistant Professor	19	Teaching and reaearch	IPFP
4	Federal Urdu University Islamabad	Oct. 2010	June 2014	Lecturer	18	Teaching	Visiting
5	GDC Chakisar (Shangla)	Oct. 2006	Sep. 2007	Lecturer	17	Teaching	Contract
6	Jamal English Education Academy Chakdara (Dir L)	Nov. 2004	Oct. 2006	Lecturer	17	Teaching	Temporary

Courses studied in M.Phil & Ph.D

- Electrodynamics
- Mathematical Methods for Physics
- Advance Quantum Mechanics
- Statistical Mechanics
- Solid State Theory
- Magnetism and Magnetic Materials
- Superconductivity
- Semiconductor Physics
- Atomic and Molecular Spectroscopy
- Material Science I & II
- Plasma Physics I, II & Experimental

Projects

1. Investigation of the possible role of electron-phonon interactions in (Cu-Tl)-based cuprate Superconductors (Rs. 0.5 million), awarded by HEC.

Publications

1. Vanadium oxide (V_2O_3) for energy storage applications through hydrothermal route. Najmul Hassan, Junaid Riaz, Muhammad Tauseef Qureshi, Aamir Razaq, **Muhammad Rahim,** Arbab Muhammad Toufiq, Abdul Shakoor, Journal of Materials Science: Materials in Electronics 29 (2018) 16021–16026. https://doi.org/10.1007/s10854-018-9689-5**.** (I. F. =2.324)

2. Enhanced superconducting properties of Ti doped $(Cu_{0.5}Tl_{0.5})Ba_2(Ca_{2-x}Ti_x)Cu_3O_{10-\delta}$ samples.

Muhammad Arif, **Muhammad Rahim***, Najmul Hassan and Nawazish A. Khan, Journal of Materials Science: Materials in Electronics (2018). https://doi.org/10.1007/s10854-018-9357-9 (I. F. =2.324)

3. Excess conductivity analyses of $(Cu_{0.5}Tl_{0.5})Ba_2Ca_3Cu_4O_{12-\delta}$ thin film samples synthesized at different temperatures and Post-annealed in flowing nitrogen atmosphere.
   Nawazish A. Khan, Syed Hamza Safeer, **M. Rahim*** and Najmul Hassan, Journal of Materials Science: Materials in Electronics. (2017). https://doi.org/10.1007/s10854-017-8134-5 (I. F. =2.324)

4. Excess conductivity analysis of $Cu_{0.5}Tl_{0.5}Ba_2Ca_{n-1}Cu_nO_{2n+4-\delta}$ (n=2, 3, 4) thin films.
   Nawazish A. Khan, Syed Hamza Safeer, **M. Rahim**, M. Nasir Khan, and Najmul Hassan, Journal of Superconductivity and Novel Magnetism 30 (2017) 1493-1498. DOI: 10.1007/s10948-016-3942-z. (I. F. =1.142)

5. Influence of Be Substitution on the Superconducting Properties of $(Cu_{0.5}Tl_{0.5})Ba_2(Ca_{2-y}Be_y)(Cu_{2.5}Cd_{0.5})O_{10-\delta}$ (y= 0, 0.1, 0.2, 0.35, 0.5) Samples.
   M. Rahim*, Najmul Hassan and Nawazish A. Khan, Journal of Materials Science: Materials in Electronics 28 (2017) 3509–3514. DOI: 10.1007/s10854-016-5950-y. (I. F. =2.324)

6. Influence of Ti doping on the superconducting properties of $YBa_2(Cu_{3-x}Ti_x)O_{7-\delta}$ materials.
   Nawazish A. Khan, Abdul Sammed Khan, M. Nasir Khan, **M. Rahim** & Najmul Hassan, Journal of Materials Science:Materials in Electronics, 27 (2016) 12178. DOI: 10.1007/s10854-016-5372-x. (I. F. =2.324)

7. Fluctuation induced conductivity analyses of Cd doped $Cu_{0.5}Tl_{0.5}Ba_2Ca_2Cu_{3-y}Cd_yO_{10-\delta}$ (y=0, 0.5, 1.0, 1.5) superconductors.
   Asad Raza, **M. Rahim***, and Nawazish A. Khan, Ceramics International 39 (2013) 4349. (I. F. =3.057)

8. Dielectric properties of oxygen post-annealed $Cu_{0.5}Tl_{0.5}Ba_2Ca_3(Cu_{4-y}Cd_y)O_{12-\delta}$ bulk Superconductors.
   M. Mumtaz, **M. Rahim**, Nawazish A. Khan, K. Nadeem, and Khurram Shehzad, Ceramics International 39 (2013) 9591. (I. F. =3.057)

9. Study of Mg-doped $(Cu_{0.5}Tl_{0.5})Ba_2(Ca_{2-y}Mg_y)(Cu_{2.5}Cd_{0.5})O_{10-\delta}$ (y=0, 0.05, 0.1, 0.25, 0.5, 0.75, 1.0) superconductors.

M. Rahim* and Nawazish A. Khan, Journal of Alloys and compounds 572 (2013) 74. (I. F. =3.779)

10. Temperature and Frequency Dependent Dielectric Properties of $Cu_{0.5}Tl_{0.5}Ba_2Ca_3(Cu_{4-y}Cd_y)O_{12-\delta}$ Bulk Superconductors.

M. Rahim, Nawazish A. Khan and M. Mumtaz, J. Low Temp. Phys. 172 (2013) 47. (I. F.=1.044)

11. Suppressed phonon density and para conductivity of Cd doped $Cu_{0.5}Tl_{0.5}Ba_2Ca_3Cu_{4-y}Cd_yO_{12-\delta}$ (y=0, 0.25, 0.5, 0.75) superconductors.

M. Rahim and Nawazish A. Khan, Journal of Alloys and compounds 513 (2012) 55. . (I. F. =3.779)

12. Excess Conductivity Analysis and the Critical Region in Be-Doped $Cu_{0.5}Tl_{0.5}Ba_2(Ca_{1-y}Be_y)Cu_{0.5}Zn_{1.5}O_{8-\delta}$ Superconductors.

M. Rahim*, Kefayat Ullah and Nawazish A. Khan, J. Supercond. Nov. Mag. 25 (2012) 975.

(I. F. =1.142)

13. Critical regime and suppression of the pseudo-gap in $Cu_{0.5}Tl_{0.5}Ba_2Ca_3Cu_{4-y}Zn_yO_{12-\delta}$ superconductors via excess conductivity analyses.

Nawazish A. Khan, **M. Rahim**, and M. Mumtaz, Physica C 478 (2012) 32. (I. F.=1.453)

14. Superconducting properties of Cd doped $Cu_{0.5}Tl_{0.5}Ba_2Ca_3Cu_{4-y}Cd_yO_{12-\delta}$ (y=0, 0.25, 0.5, 0.75, 1.0) superconductors.

Nawazish A. Khan and **M. Rahim**, Journal of Alloys and compounds 481 (2009) 81. . (I. F. =3.779)

Practical Work

- Synthesis of bulk Superconductors
- Four probe resistivity measurements
- Magnetic Susceptibility measurements
- FTIR Spectroscopy and its analysis
- Operating X-ray diffractometer and XRD analysis
- Measurements of dielectric constant and its interpretation

Fields of Interest

- Condensed Matter Physics, Material Science.

References

1) Prof. Dr. Nawazish Ali Khan

Department of Physics
Quaid-i-Azam University, Islamabad, Pakistan

Email: nawazishalik2@yahoo.com
Phone (office): +92-5190642122

2) Dr. Najmul Hassan
Assistant Professor
Department of Physics
Hazara University, Mansehra

Email: najmalhassan@yahoo.com

Cell: 03008307047